

WHAT IS CLAIMED IS:

1. A method of providing communication between at least two applications, comprising
the steps of:

- 5 accepting a connection from a second application on a first port;
allocating a second port to receive the communication from the second application;
recording the translation of the second port;
sending the communication to the first port from the second application;
receiving the communication on the second port; and
10 delivering the communication to a first application from the second port.

- 15 2. The method as claimed in claim 1, further comprising the step of:
listening on the first port for the connection from the second application.
- 20 3. The method as claimed in claim 1, further comprising the step of:
the first application requesting the communication from the first port; and
translating the first port in the request for the communication to determine the second
port such that the communication is delivered to the first application in the step of delivering
the communication to the first application.
- 25 4. The method as claimed in claim 1, further comprising the steps of:
receiving the communication on the first port following the step of sending the data to
the first port; and
translating the first port to determine the second port prior to the step of receiving the
communication on the second port.
- 30 5. The method as claimed in claim 4, wherein:
the step of receiving the communication on the second port including queuing the
communication on the second port from the first port.
- 35 6. The method as claimed in claim 1, further comprising the steps of:
the second application requesting to connect with the first port prior to the step of
accepting the connection.
7. The method as claimed in claim 1, further comprising the steps of:
negotiating the second port following the step of allocating the second port;

8. The method as claimed in claim 7, wherein:
the step of negotiating including negotiating the second port between a first and
second virtual port multiplexer.
- 5 9. The method as claimed in claim 1, further comprising the steps of:
connecting the second application with the second port following the step of
allocating the second port.
- 10 10. The method as claimed in claim 9, wherein:
the step of recording the translation including:
a) recording the translation of the second port in association with the first
application; and
b) recording the translation of the second port in association with the second
application.
- 15 11. The method as claimed in claim 10, wherein:
the step of recording the translation of the second port in association with the first
application including recording the translation in a first virtual port multiplexer.
- 20 12. The method as claimed in claim 11, wherein:
the step of recording the translation of the second port in association with the second
application including recording the translation in a second virtual port multiplexer.
- 25 13. The method as claimed in claim 10, wherein:
the step of sending the communication to the first port from the second application
including directing the communication at a first port number and translating the first port
number to a second port number; and
sending the communication to the second port utilizing the second port number prior
to the step of receiving the communication on the second port.
- 30 14. The method as claimed in claim 9, further comprising the step of:
returning to the second application a virtual socket connection to the first port prior to
the step of sending the communication to the first port from the second application.

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15. The method as claimed in claim 1, wherein:

the step of delivering the communication to the first application from the second port including rewriting the communication to appear to the first application as though the communication is delivered from the first port.

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16. The method as claimed in claim 15, wherein:

the step of rewriting including rewriting a header of the communication to include at least the first port.

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17. The method as claimed in claim 16, wherein:

the step of rewriting including rewriting the header of the communication to include a revised checksum.

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18. A computer system providing a method for multiplexing at least one port, comprising the steps of:

receiving a request to access a first port from a first application;
receiving a connection on the first port from a second application;
allocating a new port; and
returning the connection to the new port.

19. The computer system as claimed in claim 18, further comprising the step of:

translating the new port including determining an application identifier (AID) and internet protocol (IP) address.

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20. The computer system as claimed in claim 19, further comprising the step of:
negotiating the new port prior to the step of translating the new port.

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21. The computer system as claimed in claim 20, further comprising the step of:
acknowledging the new port prior to the step of translating of the new port;
returning the virtual port connection to the second application;

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22. The computer system as claimed in claim 21, further comprising the step of:
the second application requesting connection to the first port prior to the step of receiving a connection.

~~23.~~ A computer program product for performing virtual port multiplexing of a plurality of ports to allow communication between at least a first and second computer, the computer program product including a computer readable medium and a computer program mechanism stored thereon, the computer program mechanism comprising:

- 5 a virtual port multiplexing procedure configured to:
- a) accept a connection from a second application on a first port;
 - b) allocate a second port to receive the communication from the second application;
 - c) record the translation of the second port;
 - d) send the communication to the first port from the second application;
 - e) receive the communication on the second port; and
 - f) deliver the communication to a first application from the second port.

10 24. The computer program product as claimed in claim 23, further comprising the step of:
listening on the first port for the connection from the second application;
the first application requesting the communication from the first port;
translating the first port in the request for the communication to determine the second port such that the communication is delivered to the first application in the step of delivering the communication to the first application;
20 receiving the communication on the first port following the step of sending the data to the first port; and
translating the first port to determine the second port prior to the step of receiving the communication on the second port.

25 25. The computer program product as claimed in claim 23, further comprising the steps of:
negotiating the second port following the step of allocating the second port including negotiating the second port between a first and second virtual port multiplexer;
connecting the second application with the second port following the step of
30 allocating the second port; and
the step of recording the translation including:

- a) recording the translation of the second port in association with the first application; and
- b) recording the translation of the second port in association with the second application.

26. An apparatus for providing communication between at least two computers, the apparatus comprising:

a first computer coupled with a first virtual port multiplexer;

at least a first and second port coupled with the first virtual port multiplexer;

5 a second computer coupled with at least the first port, and the second computer configured to at least direct communication to the first port;

the first computer configured to at least receive the communication from the second port; and

10 the first virtual port multiplexer configured to at least record a translation of the first port in relation to the second port.

27. The apparatus as claimed in claim 26, further comprising:

a second virtual port multiplexer coupled with the second computer and with at least the first and second ports; and

the second virtual port multiplexer configured to at least record the translation of the first port to the second port.

28. The apparatus as claimed in claim 27, wherein:

the first virtual multiplexer couples with the second virtual multiplexer such that the first and second virtual multiplexers are configured to at least communicate the translation between the first port and the second port.

29. The apparatus as claimed in claim 26, wherein:

the first computer further configured to operate a first application;

25 the second computer further configured to operate a second application; and

the first and second applications being configured to communicate such that the second computer at least directs the communication from the second application and the first computer at least receives the communication for the first application.

30. The apparatus as claimed in claim 26, wherein:

the first multiplexer is configured to rewrite the communication to at least appear to the first computer that the communication is received from the first port.

31. The apparatus as claimed in claim 30, wherein:

35 the first multiplexer having a means for translating at least the first port in relation to the second port.

32. The apparatus as claimed in claim 30, wherein:
the first multiplexer having a lookup table to translate the first port in relation to the
second port.